A4297

BAY AREA
AIR POLLUTION CONTROL DISTRICT
939 Ellis Street
San Francisco, California

INSTITUTE OF GOVERNMENTAL STUDIES LIBRARY
AUG 18 1978
UNIVERSITY OF CALIFORNIA

ADVISORY COUNCIL

SUBCOMMITTEE ON MANUAL OF PROCEDURES

Thursday
July 20, 1978
10:00 A.M.

939 Ellis Street
San Francisco
California 94109

M I N U T E S

COMMITTEE MEMBERS PRESENT: Lowell V. Smith, Chairperson; Shirley J. Campbell, Joseph D. Coons, Hiram Wolch

COMMITTEE MEMBERS ABSENT: John L. Nicholson

STAFF MEMBERS PRESENT: Gary Bisonett, Gale Karels

- - -

Chairperson Smith called the meeting to order at 10:25 A.M.

Mrs. Campbell requested the following additional corrections to the Minutes of April 20, 1978:

Page 1 - 9.3 to read, "Analyze an unused portion..."

Page 7 - 8.3 to read, "...Use the Rotameter briefly to establish.."

APPROVAL OF MINUTES OF MAY 25, 1978

Mrs. Campbell requested the following corrections:

Page 2 - 5.1 add:"The probe is constructed of borosilicate glass tubing."

Page 3 - 9.3 Delete the second 9.3

Page 4 - Renumber the following sections:7.3 to 7.4, 7.4 to 7.5, 7.5 to 7.6

Page 5 - 2.1, to read, "non-dispersive"

- 5.9, Change "Psig to "psig"

Page 7 - 5.1, Delete "for", add "or"

Page 10 - 2.1 Add 80% at end of 4th line.

Page 11 - 7.2 Add this section number in chronological sequence.

- 9.2 Add "Keep 21PA solutions on ice and keep"

- 9.3 Delete "must be analyzed" and keep "analyze."

The Committee approved the Minutes as corrected.

The Committee discussed and agreed that for purposes of consistency, the following changes in format should be made throughout the Procedures:

1. The following words are to be hyphenated:

   stack-gas, zero-air, span-gas, particulate-free.

2. The following words are to be written as one word:

   flowrate, freeflow.

3. Substitute "in accordance with" for "according to"

   Substitute "Due to" for "because of"

REVIEW OF INTEGRATED (ABSORPTIVE) SAMPLING PROCEDURES ST-21, ST-7

ST-21 - TOTAL REDUCED SULPHUR. Mr. Karels summarized the method and made the following corrections:

1.1 - to read, "This method is used to quantify omissions of total reduced (TRS) sulfur compounds;....."

5.1 - delete "Chemiluminescent"
line 3, to read, "steel catalyst or its equivalent,...."

5.4 - delete "long enough"
line 2, to read, "of sufficient length" to traverse.....

5.5 - line 2, to read, ".....plates removed and with the inlet..."
line 3, to read, ".....(4 inches). Equivalent condensers may be used."

5.8 - line 3, to read, "have a freeflow capacity....."

5.11 - line 1, to read, "Span-Gas. Use a high-pressure cylinder..."

5.12 - to read, "Combustor. Use a system to oxidize all reduced sulfur compounds in the sample stream to SO_2. An example of an acceptable combustion tube found adequate by the BAAPCD is shown in Figure 3.

5.13 - line 2, to read, "containing the scrubbing reagent."

5.14 - line 1, to read, "Use a disc filter following combustor"

6.1 - line 4, to read, "adjust as necessary to 5.6 with the appropriate reagents."

7.1 - line 1, to read, "Warm-up the instrument in accordance with..."

7.3 - to read, "Leak-test the sampling system by starting the pump, plugging the probe, and assuring that the pressure to the analyzer falls to zero.

7.4 - line 2, to read, "instrument in accordance with...."

7.5 - line 2, to read, "the instrument in accordance with..."

7.6 - line 1, to read, "...traverse (in accordance with St-18)
line 3, to read, "...If the concentration of reduced sulphur compounds at any point differ from"
line 5, to read, "during the test; if not...."

7.7 - line 1, to read, "Prepare the chart recorder in accordance with ..."

7.8 - line 1, to read, "Add approximately 25ml of citrate buffer..."

7.9 - To be rewritten by Staff.

8.1 - line 1, to read, "Each test run shall be of 30 minutes...."
- line 3, to read, "of a batch operation shall be...."
- line 4, to read, "or 30 minutes, whichever is less."

8.4 - Delete "clearly"

9.1 - line 1, to read,"Stack-gas flowrate. Use ST-17 to determine..."
- line 2, to read, "after each test run.

9.2 - , to read, "Moisture. Use ST-23 to determine the moisture content of the stack-gas."

10.2 - Delete "the" from line 1.

A letter dated January 20, 1978, with respect to ST-21, from A F. Reese, Environmental Control Supervisor, Fibreboard, was discussed. Chairperson Smith requested Mr. Karels to respond to it. Mr. Karels reported that he had changed the procedures to reflect the suggestion under A thereof; that Staff disagreed with the contents of B and has the data to substantiate their claims; that Staff changed the formula referred to in C to correct the equation at the end of §10.2.

ST-7 - NON-METHANE ORGANIC CARBON. Mr. Bisonett summarized the method and made the following corrections:

1.1 - line 1, to read, "..to quantify emissions of non-methane organic.."

1.2 - line 3, to read, "...in the sample; otherwise ..."

2.1.2 - line 1, to read, "Method B. The sample is divided into..."

2.2 - line 2, to read, "either: (a) by filling..."
line 3, to read, "...analysis, or; (b) by directing"

3.3 - line 2, to read, "...or greater. Sample dilution ratio"
- line 3, to read, "(not to exceed 3 volumes clean dry air to sample)"

3.4 - to read, "...of the NDIR is ±2% ...."

4.1 - line 1, to read, "...may occur due to reaction of highly"
- line 3, to read, "..if the condensation temperature of the sample.."

4.2 - line 2, to read, "due to absorption of alcohols..."

4.3 - line 2, to read, "...measurement of only the organic"
- line 3, delete "alone"

5.1 - line 2, delete everything after word, "equivalent"

5.2 - line 1, to read, "...analyzer. Use an Mine Safety Appliance Co...."
- line 2, delete, "The analyzer must be equipped with a sample cell in the range being measured."

5.3 - to read, "Flame ionization detector. Use a Beckman Model 400 or equivalent, if necessary for methane analysis."

5.4 - to read, "Chart Recorder. Record the continuous output from the analyzer."

5.5 - line 2, to read, "(the assembled system as shown in Figure 1).
- line 3, to read, "conditioning system shall provide a dry.."
- line 4, to read, "...The zero-air system shall provide clean dry"
- line 6, to read, "shall provide known concentrations of the appropriate gas for use in calibrating

5.5 - line 7, to read, "the analyzers. Except as specified..."

5.6 - line 1, to read, "Sample probe. Use...tube of sufficient length"

5.7 - line 2, to read, "...removed and with the inlet tubes shortened"
- line 3, to read, "...(4 inches). Equivalent condensers may be used."

5.9 - line 2, to read,"...or equivalent, in the sample system."

5.10 - line 2, to read, "...The pumps must have a freeflow"

5.13 - to read,"Span-gas. Use a high-pressure cylinder containing a known concentration of propane in the air."

5.14 - to read, "Soda-lime bed. Use a bed of sufficient capacity to remove carbon dioxide for at least a 30 minute sampling period.

5.15 - to read, "Quartz Combustor. Use a quartz combustor capable as operated, of oxidizing all organics in the sample, including methane. An example of an acceptable combustion tube found adequate by the BAAPCD is described in Figures 3A and 3B.

6.1 - to read, "Warm-up the instrument in accordance with the manufacturer's instructions."

6.3 - to read, "Leak-test the sampling system by starting the pump, plugging the probe, and assuring that the pressure to the analyzer falls to zero."

6.4 - to read, "Introduce zero-air into the analyzer and calibrate the instrument in accordance with the manufacturer's instructions."

6.5 - line 2, to read, "the instrument in accordance with the manufacturer's instructions.

6.6 - line 1, to read, "..traverse (in accordance with ST-18)..."
- line 4, to read, "...by more than 10%, traverse the stack"
- line 5, to read, "..test; if not, sample at any single point."

6.7 - line 1, to read, "Prepare the chart recorder in accordance with the manufacturer's "

6.8 -line 2, to read, "Equivalent dilution systems are acceptable."

7.1 - line 1, to read, "...shall be of 30 minute duration.."
- line 2, to read, "...Each test run of a batch..."
- line 3, delete "process" ....of the batch time or 30"

7.2 - line 3, delete "as necessary"

7.4.2 - to read, "Periodically pass CO_2 span-gas through the system to ascertain that the NDIR analyzer reads zero; if not, replace the scrubber medium."

7.5.1 - delete "only"

7.5.2 - line 1, to read. "At approximately 10 minute intervals..."

7.7 - delete "clearly"

7.9 - line 3, to read, "remove non-methane hydrocarbons and then..."
- line 4, delete the entire line 4.

8.3 - to read, "Carbon monoxide concentration. Simultaneously with each test run, use ST-6 to determine the CO concentration."

REVIEW OF ISOKINETIC SAMPLING PROCEDURES - ST-15, ST-2, ST-9, ST-10

ST-15 - PARTICULATE Mr. Karals summarized the method and made the following corrections:

3.1 - To be rewritten by Staff.

4.1 - line 3, to read, "..gain. This phenomonon"
- line 4, to read, "is minimized by use of a back-up filter"

5.3 - line 1, to read, "holder...Use a filter tube holder which"
- line 2, to read, "will contain three filter tubes....."

5.4 - line 1, to read, "Filter medium. Use borosilicate glass wool or equivalent."

5.5 - delete "tubing"

5.6 - Add brackets to following equation $\frac{Pstd}{P_s}$

5.7 - line 3,delete comma after "potentiometer

5.8 - to read, "Encasement tube. Assemble the items in 5.5, 5.6 and 5.7 in a pipe as shown in Figure 2 to facilitate handling. Position the pitot tube and sample nozzle as shown in Figure 6 in order to prevent the pitot tube from interfering with the gas flow."

5.9 - line 2, to read, "third impinger shall be modified by..."

5.12 - line 3, to read, "the dry test meter is free of water."

5.13 - line 1, to read, "Dry test meter. Use a 175 cfh dry test meter..."
- line 2, to read, "...true volume, and equipped with a thermometer at the outlet."

5.15 - line 2, delete comma after word "gauge"

5.16 - line 2, to read, "to within 0.5mg to measure filter weights..."

5.17 - line 1, to read, "Barometer....."

6.1 - line 3, to read, "10 inch H_2O pressure drop across each filter tube as 0.5 CFM"

6.2 - line 1, to read, "Impinger preparation. Fill each of two unmodified Greenberg-Smith impingers"
- line 2, to read, "with approximately 100ml of distilled water. Weigh and record weights on a data sheet as shown in Figure 5."

6.3.1 - line 2, to read, "traverse points in accordance with ST-18."

6.3.2 - line 1, to read, "Conduct a velocity traverse in accordance with.."

6.3.3 - line 2, to read, "gases in accordance with ST-23."

6.3.4 - add brackets to equation:

$$\frac{T_s}{V_s K_p (100 - H_2O)}$$

- add, after equation,

V_s = stack-gas velocity fps

7.4 - line 3, to read, "..sampling. Immediately before sampling, rotate.."

8.1 - line 1, to read, "...filters as a unit and seal both ends"

9.1 - line 2, to read, "...particulate run in accordance with ST-5,.."

10.5 - line 1, to read, "Corrected Particulate Weight. Calculate, using"
- line 5, to read, "...Weight gain in 1st filter, grams
- line 6, to read, "...Weight gain in 2nd filter, grams
- line 7, to read, "...Weight gain in 3rd filter, grams
- line 12, to read, "Corrected weight of particulate catch, grams
- line 13, to read, "W_3/F_3 grams

grams

10.7 - line 3, to read, "$\underline{11_{0.7}}$ = To be supplied by Staff.

10.8 - line 5, to read, "$\underline{C_{CO_2}}$ = Percent carbon dioxide in stack-gas (dry basis)

10.9 - line 3, to read, "$\underline{M}$" = (to be written by Staff)

10.10 - line 2, to read, $$\frac{T_{si}\ i\ Q_{mi}}{0.6\ (100-H)AV_{si}\ iT_{mi}}$$

- delete commas after V_s T_m T_s Q_m following second "where" and in bottom half of last equation in this section.

ST-2 BERYLLIUM corrections: Mr. Bisonett summarized the method and made the following

2.1 - line 4, to read, "is measured by atomic absorption spectrophotometry in accordance with Analytical Procedure Lab 2b.

3. - Heading, Delete "and Sensitivity"

3.1 - Delete everything after "is" (to be filled in by Staff)

8.1 - line 2, to read, "for beryllium in accordance with Analytical Procedure Lab 2b."

ST-9 LEAD corrections: Mr. Karels summarized the method and made the following

2.1 - line 4, to read, "...lead content in accordance with Analytical"
- line 5, to read, "Procedure Lab 4b."

3. - Heading, delete "and Sensitivity"

8.2 - line 2, to read, "the ICl solutions for lead in accordance with Analytical Procedure Lab 4b.

ST-10, MERCURY following corrections: Mr. Bisonett summarized the method and made the

2.1 - line 3, to read, "...iodine monochloride (ICl) are reduced..."

- line 6, to read, "mercury are expected, use a glass..."

3. - Heading, Delete "and Sensitivity"

3.2 - line 2, to read, "...iodine monochloride in the absorbing...

7.1 - line 2, to read, "of the 0 1M ICl shall be placed..."

TIME AND PLACE OF NEXT MEETING

10:00 a.m., Thursday, August 31, 1978, 939 Ellis Street, San Francisco, California.

The meeting adjourned at 2:30 p.m.

Respectfully submitted,

Mabel Harder
Secretary

MH:jmz

INSTITUTE OF GOVERNMENTAL STUDIES LIBRARY
109 PHILOSOPHY HALL
UNIVERSITY OF CALIFORNIA
BERKELEY, CA 94720

A4297

University of California, Berkeley
Institute of Governmental Studies
Library

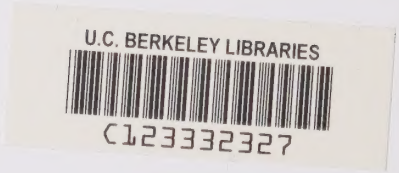
Minutes / Bay Area Air Quality
Management District, Advisory
Council, Subcommittee on Manual of
Procedures.

Jul 20,
1978

IGSL

INSTITUTE OF GOVERNMENTAL STUDIES LIBRARY
109 PHILOSOPHY HALL
UNIVERSITY OF CALIFORNIA
BERKELEY, CA 94720

A4297
Jul 20,1978



INSTITUTE OF GOVERNMENTAL STUDIES LIBRARY
109 PHILOSOPHY HALL
UNIVERSITY OF CALIFORNIA
BERKELEY, CA 94720